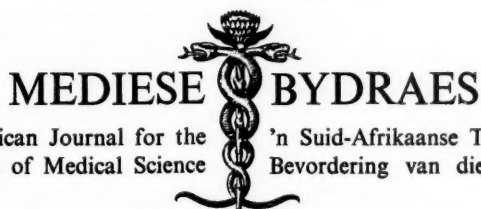


# MEDICAL PROCEEDINGS



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## SEASONAL GREETINGS

*We take this opportunity of wishing all our colleagues a very merry Christmas and a happy New Year.*

## SEISOENSGROETE

*Ons wil al ons kollegas 'n baie gesënde Kersfees en 'n gelukkige Nuwejaar toewens.*

## EDITORIAL · REDAKSIONEEL

### DAY-TIME CHANGES IN THE ECG

In order to establish what day-time changes occur in the ECG, the authors<sup>1</sup> took 4 electrocardiograms daily in the case of 112 patients; 74 of these were suffering from organic heart disease and 38 from heart disorders of nervous origin. In 40% of the cases the ECG remained fundamentally unaltered in the course of the day. In 20% the ECG did indeed show considerable variations, but was still pathological in every case. In the remaining 40% the ECG findings were normal at certain times of the day. The day-time changes and also the return to normal of the ECG were much more common in younger patients than in the older ones. Compensated patients revealed day-time changes more than twice as often as decompensated patients.

A substantial difference was found between organic heart disease and heart disorders of nervous origin: the ECG of the neurotic patients showed during the day a pronounced instability with a tendency for the waves to return to normal; in the case of the patients with organic heart disease, on the other hand, the pathological ECG findings either remained unchanged in the course of the day or showed a day-time fluctuation only where a stage of clinical improvement had been reached.

### VERANDERING IN DIE EKG GEDURENDE DIE DAG

In 'n poging om vas te stel watter veranderinge in die EKG gedurende die dag plaasvind, het die skrywers<sup>1</sup> vier elektrokardiogramme per dag in die geval van 112 pasiënte gemaak; 74 van hulle het aan organiese hartkwaal gely, en 38 aan hartkwale van 'n senuwee-oorsprong. In 40% van die gevalle het die EKG fundamenteel onveranderd in die loop van die dag gebly. In 20% het die EKG inderdaad aansienlike afwykinge aangetoon, maar in iedere geval nog steeds patologies gebly. In die oorblywende 40% van die gevalle was die EKG-bevindings normaal op sekere tye van die dag. Die dag-veranderinge en ook die terugkeer van die EKG na normaal was 'n meer algemene verskynsel by jonger pasiënte as by ouers. Dag-veranderinge het meer as twee keer so dikwels by gekompenseerde pasiënte as by gedekompenseerde pasiënte voorgekom.

'n Aansienlike verskil tussen organiese hartkwale en hartaandoenings met 'n senuwee-oorsprong is ook vasgestel. Die EKG van neurotiese pasiënte het gedurende die dag 'n opvallende onstansvastigheid getoon, met 'n neiging vir die golwe om na normaal terug te keer; in die geval van pasiënte wat aan organiese hartkwale gely het, aan die ander kant, het die patologiese EKG-bevindings of onveranderd in die loop van die dag gebly, of 'n dag-wisseling getoon slegs nadat 'n toestand van kliniese verbetering bereik is.

1. Kenedi, I. and Bige, B. (1958): *Cardiologia*, **32**, 278.

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These findings agree with observations made by other authors, according to whom a day-time fluctuation in the ECG is a sign of good omen in organic heart disease. The day-time ECG may be a valuable aid to diagnosis when the results of a conventional ECG do not fit in with the other clinical data.

Hierdie bevindings stem ooreen met die waarnemings van ander skrywers wat beweer dat wisselinge in die EKG gedurende die dag 'n goeie voor- teken is in die geval van persone wat aan organiese hartkwaal ly. Die EKG gedurende die dag kan 'n waardevolle hulpmiddel by diagnose wees wanneer die resultate van 'n konvensionele EKG nie by die ander kliniese gegewens aanpas nie.

## LARGE ABDOMINAL LUMPS IN CHILDREN

### WITH PARTICULAR REFERENCE TO EMBRYOMA OF THE KIDNEY

#### A SURVEY OF 100 CONSECUTIVE CASES

J. H. LOUW, CH.M.\*

Department of Surgery, University of Cape Town, Medical School, Mowbray, C.P.

(Concluded from p. 809)

#### PROGNOSIS AND TREATMENT

**Prognosis.** It is not possible to generalize as far as all abdominal swellings are concerned. However, it can be stated that if the swelling is a malignant tumour the prognosis is extremely grave. Without treatment most cases of malignancy in childhood succumb within 6 to 12 months.<sup>6, 14, 35</sup> Spontaneous regression of neuroblastoma has been reported, but this is exceptional. Teratomata may pursue a 'benign' course for many years, but once they manifest their malignant potentialities, the course is usually rapid.<sup>13</sup> Nephroblastomata are probably the most malignant of the localized tumours.<sup>32</sup> Albarran and Imbert<sup>1</sup> report the course in 20 untreated cases: 14 died within 6 months; 3 within 6 to 12 months; 2 were alive after 18 months and 1 survived for 3 years. (The same tumour seems to progress more slowly in adults and cases have been reported where a nephroblastoma has been known to be present for 10 years<sup>30</sup> and 16 years<sup>23</sup> before removal).

Even with appropriate treatment the prognosis remains grave. Of our 47 cases of malignant disease only 14 (30%) are still alive today and several of them may still die of their disease (Table 1). From Gross' book<sup>12</sup> it appears that at the Boston Children's Hospital 242 cases of abdominal malignancy (excluding lymphomata) have been treated with 80 (33%)

survivals. The teratomata and fibrosarcomata carry the best prognosis<sup>12, 35</sup> and the reticulosos the gravest.<sup>35</sup> Although there are records of neuroblastomata that have been 'cured,' the prognosis in general is very serious<sup>12, 16, 35</sup> and none of our cases has survived.

Our nephroblastomata have done very badly (Fig. 23). Only 4 (18%) of the cases in this series are still alive and the follow-up in all of them is too short to be significant. Others claim survival rates varying from 10% to 80% and over.<sup>7, 9, 11, 12, 18-20, 24, 30, 32, 33</sup> The most optimistic figures for a large series come from Boston<sup>12</sup> where it is claimed that in the period 1940-1947 their over-all cure-rate was 47%.

Certain unfavourable clinical features of our cases (such as the high proportion of late cases with large, nodular tumours, haematuria, general and abdominal symptoms and gross anaemia) may partly account for the difference. Two of our cases were already moribund on admission and in 2 others the disease was so far advanced that palliative radiotherapy was

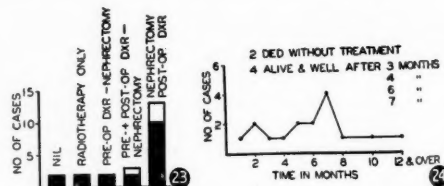


Fig. 23. Nephroblastoma: Treatment and its Results. (Black areas indicate deaths).

Fig. 24. Time from Treatment until Death.

\*Professor of Surgery, University of Cape Town, Head of Children's Surgical Unit, Groote Schuur Hospital and Red Cross War Memorial Children's Hospital.

TABLE 1: PROGNOSIS OF MALIGNANT ABDOMINAL TUMOURS

	Centre	No. of Cases	Survivors	Survival Rate
All malignant tumours .. .. .	Cape Town	47	14	30%
All malignant tumours .. .. . (except lymphomas)	Boston	242	80	33%
Nephroblastoma .. .. .	Cape Town 1951—1958	22	4	18%
Nephroblastoma .. .. .	Boston 1914—1930	27	4	14.9%
	1931—1939	31	10	32.2%
	1940—1947	38	18	47.3%
Nephroblastoma .. .. .	Others (Collected)	336	85	25%

all that could be offered. In one third of the remainder the affected kidney was not visualized on excretory pyelography, which Gross<sup>12</sup> finds only very rarely. However, there are others whose results are more in keeping with ours and Thompson *et al.*<sup>32</sup> state:

'It seems that the average survival rate for 2 years aside from the Boston Children's Hospital group most probably would be between 15 and 20%.'

The mean figure for 10 large series which have been reported is 25%.<sup>7, 9, 11, 18-20, 24, 30, 32, 33, 35</sup> British figures approximate 20% and American figures 30%.

The age of the child has an important bearing on the prognosis (Fig. 9). All surgeons report more survivors in infants under 1 year<sup>12, 16</sup> whereas the number of 'cures' in children over 18 months are but few. Gross<sup>12</sup> claims 80% five-year survivors in infants under 12 months; this is almost twice that of his over-all survival rate of 47%. In our series 9 of the patients were under 18 months and the 4 survivors (44%) all belonged to this age group. Perhaps the small infant, so frequently cuddled by mother and nurse, has his abdomen palpated more regularly.

It should be pointed out that in the assessment of a cure of nephroblastoma (and most other childhood tumours), freedom from recurrence for 18 months or 2 years is usually regarded as adequate.<sup>12</sup> (The tumours that recur usually become evident within 6 months and death occurs within 8 months of treatment.<sup>12</sup> Among our cases who developed recurrences, only 2 survived for more than 8 months, viz. 10 months and 17 months. Both children were under 18 months old when treated).

While this is true for the vast majority of cases, it cannot be taken as a general rule. Recurrences which have appeared 3½–5 years later have been recorded,<sup>17, 19, 24</sup> and sporadic reports reveal a continuing decimation of those who have survived 2 years.<sup>32</sup> A 10-year survival rate is difficult to ascertain, but according to Thompson the eventual 10-year cure-rate will probably not exceed 10%.<sup>32</sup>

There is, however, some hope even for late cases because recurrence, serious as it is, does not necessarily doom the child. Cases are on record where local recurrences and distant metastases have been successfully treated.<sup>7, 11, 24, 30</sup>

#### TREATMENT: FIG. 23

As far as treatment is concerned, *surgical removal* of the tumour still offers the best chances.<sup>35</sup> This applies not only to the tumours which arise in single organs but even to localized lymphomata. It must be stressed, however, that the surgery of childhood has far wider implications than the mere use of smaller instruments and a smaller incision. These tumours require the gentlest of handling to avoid spread and the operative, pre- and postoperative management must be such that the child is fit enough for, say, radiotherapy within 24 hours. The common practice of delegating these cases to a large variety of visiting surgeons will only affect the results adversely. This has been well illustrated by the experiences in the Boston Children's Hospital, where elimination of this pernicious practice more than doubled the survival rate in cases with nephroblastomata.<sup>12</sup>

As far as nephroblastomata are concerned, nephrectomy alone may result in an appreciable number of survivors and at least 41 five-year cures have been reported.<sup>19</sup> Heselson's patient already referred to is a case in point. None of our cases was treated by operation alone.

In the surgical management of these cases it is important to ligate the renal vein at a very early stage before the tumour is handled.<sup>12</sup> For this reason most surgeons prefer the trans-abdominal approach, using either a paramedian or a transverse incision.<sup>9, 11, 12, 16</sup> In very large growths a thoraco-abdominal approach is advised.<sup>12, 16</sup> However, many still prefer the standard loin approach<sup>24, 30</sup> which can be carried well forward to open the peritoneum and search for local invasion or metastases.<sup>24</sup> In the majority of our cases the trans-abdominal approach (paramedian) was used.

Radiotherapy has been shown to be of great value in the treatment of childhood neoplasms.<sup>35</sup> It may be used as the only method of therapy or in conjunction with surgical excision.

(a) Radiotherapy alone is not of great value as a curative agent, although long-term survivals have been reported in the case of lymphomata, neuroblastomata and nephroblastomata.<sup>35</sup> As far as Wilms' tumours are concerned, there are reports of at least 16 cases that have survived 5 years.<sup>19</sup> Dean<sup>7</sup> reports on 20 cases treated by X-rays alone of whom 5 survived for 5 years. Both Silver<sup>30</sup> and Kerr<sup>19</sup> report cases of long-term survival after irradiation of pulmonary secondaries. Close *et al.*<sup>3</sup> and Gross<sup>12</sup> each report cases with bilateral tumours where one side was apparently cured 4 years and 12 years after radiotherapy.

In most cases, however, the method afforded temporary palliation only. Nevertheless, there can be no question of its value and every case should be given the benefit of X-ray treatment no matter how far advanced the disease may be. Two of our cases received X-ray therapy alone. One had a tremendous nodular tumour, pulmonary metastases and severe anaemia. Therapy had little effect and she died within 2 months. The other was given X-ray therapy to reduce the size of an enormous, fixed tumour. Nephrectomy was then attempted but had to be abandoned. He soon developed pulmonary metastases (which were irradiated) but died 3 months later.

(b) Radiotherapy in conjunction with surgery is accepted as the treatment of choice in most childhood tumours including nephroblastoma.

As far as the latter is concerned there are differences of opinion about the best time for radiotherapy. Three methods are used:

1. *Pre-Operative Radiotherapy.* This is the method favoured for all cases by Priestley,<sup>26, 27</sup> Kerr<sup>18, 19</sup> and others. These workers argue that by preliminary irradiation the tumour is rendered smaller and therefore easier to handle at subsequent operation and the activity and vascularity are depressed, thus diminishing the risk of embolization during operative manipulations.<sup>11, 30</sup> They claim that their results are better than those obtained by other methods. Most surgeons, however, reserve pre-operative irradiation for very large tumours only<sup>11, 24, 30, 35</sup> and this has been our policy. Two of our cases who had tremendous tumours were so treated. The disease was far advanced in both and they died within 6 months of treatment.

It must be mentioned here that Gross<sup>12</sup> makes the following emphatic observations about pre-operative therapy:

'Within a year it became so evident that the fatality rate was skyrocketing above former figures, that we felt completely sure that such irradiation before operation was very detrimental; we have therefore completely abandoned it.'

Obvious objections to the method are that it puts off the operation for a considerable time and can liquefy tumour cells and thereby increase the chances of embolization.<sup>12</sup> We have found that a full course of pre-operative therapy increases rather than decreases the difficulty of the operation.

2. *Pre- and Post-Operative Radiotherapy.* This method is strongly favoured by some<sup>9, 30</sup> who claim survival rates up to 87%.<sup>9</sup> It would appear, however, that claims are being staked on very small and often selected numbers. The same objections that were given for pre-operative irradiation hold to a certain extent as far as this method is concerned, but it has certain advantages over the former.

i. There is less delay.

ii. The operation is done before the child is too ill from the effects of irradiation.

iii. The operation is in fact rendered less difficult if done when the tumour has shrunk to a reasonable size.

If we are prepared to consider pre-operative irradiation at all, this method is therefore to be preferred to a full course of pre-operative therapy in cases with very large tumours.

The method was used in 3 of our cases with very large tumours. Two died within 6 months. One was alive and well 7 months after treatment when last seen 8 months ago.

3. *Post-Operative Radiotherapy Only.* This method is favoured by most surgeons, includ-

ing Gross,<sup>12</sup> who is convinced that it gives the highest possibility of a permanent cure. At the Boston Children's Hospital the routine use of immediate post-operative X-rays improved their over-all results from 32% to 47%.

Certain details of this method of treatment, which must be aggressive<sup>11</sup> are important. These are:

i. The operation must be done very promptly. Gross<sup>12</sup> gets it done within 4 or 5 hours of the patient's admission to hospital.

ii. The radiotherapy must be given in large doses, i.e. 2,500 to 3,500 roentgens tumour dosage.<sup>35</sup>

iii. Therapy must be started as soon as possible after operation, preferably on the same day before the child has recovered from the anaesthetic.<sup>12, 16</sup>

It is difficult to assess the results of this method of therapy because the patients are often selected. As already mentioned, Gross<sup>12</sup> claims an over-all 5-year survival rate of 47% and some authors make most fantastic claims.<sup>24</sup> Thirteen of our cases were treated by this method. Three are still alive, i.e. a possible survival rate of 23%. In general it appears that more than half and probably three quarters of these children will die of their disease despite early diagnosis and skilled treatment.

The treatment of bilateral tumours poses a very difficult although not insuperable problem. Two survivors treated by operation and irradiation on one side and by irradiation on the other have already been mentioned. The third reported survivor is that of Rickham<sup>29</sup> who treated the one side by nephrectomy and irradiation and the other by partial nephrectomy and irradiation. She was alive and well 14 months later.

Various *chemotherapeutic agents* are known to have destructive effects on many of the malignant tumours of childhood, including Wilms' tumour, but no authentic cures have been obtained.

Nitrogen mustard, Myleran, folic acid antagonists and radioactive isotopes have prolonged the lives of many children suffering from various reticulososes; and steroid hormones have also produced remissions,<sup>6</sup> but a more potent and specific agent which will eradicate the disease has yet to be found.

Similar substances have provided palliation in the treatment of neuroblastoma and vitamin B<sub>12</sub> has proved of particular value in this disease.

In nephroblastoma the chemotherapeutic agents are less effective, although Johnson and Marshall<sup>17</sup> claim that nitrogen mustard may cause regression of metastases and recommend its routine use in the immediate post-operative

period. Our experience with both nitrogen mustard and vitamin B<sub>12</sub> has been most disappointing.

#### CONCLUSIONS

It is evident from what has been said that despite 50 years of surgical progress, childhood cancer, which is on the increase, remains a formidable problem. It is still incurable in over two thirds of cases and in certain cancers the absolute cure rate approximates zero.



Fig. 25. R. F. aged 8 years. Wilms' tumour removed 7 years before.



In looking to the future it must be borne in mind that the satisfactory control of any disease requires the application of preventive measures, early diagnosis and an aggressive therapeutic attack.

The *prevention* of cancer is still out of our reach. Recent work, however, has thrown some light on the origin of developmental tumours in children. Statistics have shown that irradiation of the pregnant mother may be a responsible factor and this has stimulated intensive studies in human development.<sup>31</sup>

Certain suggestions have been made in regard to *early diagnosis*. Their application requires the institution of a National Child Health Programme which includes a Children's Tumour Registry and compulsory periodic health examinations.<sup>14</sup> It has been suggested<sup>14</sup> that these examinations should take place monthly from birth to 1 year, quarterly from 1 to 6 years and twice yearly thereafter. An essential part of this examination should be careful palpation of the abdomen. If a mass is found, full investigation of the case becomes a matter of urgency and all lumps which are not obviously of congenital, traumatic or infective origin, should immediately be excised or submitted to biopsy. In the case of abdominal masses, immediate pyelography is usually required and very often laparotomy, performed on the day of admission, is called for.

*Therapy*, with certain modifications, has been relatively standardized. It is hardly necessary to point out that present-day methods of treatment leave no room for satisfaction and complacency.

However, the photograph of R. F. (Fig. 25) still provides evidence that if malignant disease is vigorously and thoroughly dealt with, our efforts will be many times rewarded. This boy, now nearly 8 years old, was operated upon in December 1950 at the age of 14 months, for an enormous right nephroblastoma. Post-operative therapy consisted of 3,500 roentgens given over a period of a month, which made him very ill. Since then he has grown up normally and not only remains well but has a life expectancy of 64 years—an 8-fold difference in life years when compared with the 64-year-old, also successfully treated for cancer, who usually receives so much more of our attention and care.

#### SUMMARY

1. One hundred consecutive cases who presented with large abdominal masses have been analysed.

Nearly half of these suffered from malig-

nant disease, and renal embryoma accounted for half of these.

2. It is pointed out that malignant disease in general is not uncommon in childhood and the possibility of malignancy should constantly be borne in mind in the differential diagnosis of any complaint in a child. Children in the age group 1-4 years appear to be particularly prone to malignant disease.

3. As far as large abdominal swellings are concerned the following was found:

In the 6 months to 6 years age group almost 80% of the swellings were malignant. (Over 95% of abdominal malignancies occurred in this group and so did all the nephroblastomata in this series).

In the 0-6 months age group most of the swellings were due to serious congenital malformations.

In the 6 years and over group chronic inflammation and benign tumours and cysts accounted for fully three quarters of the swellings.

4. Early diagnosis depends first on routine palpation of the abdomen of every child who is brought for any examination. If an abdominal lump is found, intravenous pyelography is usually necessary and may be very helpful.

Exploratory laparotomy should be performed on all cases where a neoplasm is suspected or when there is doubt about the diagnosis.

5. The prognosis of malignancy in children is serious. If it occurs in the abdomen, less than one third of the cases survives 5 years. This applies particularly to nephroblastomata. If the disease is vigorously and thoroughly dealt with, many useful lives can be saved.

6. Surgical removal still offers the best chances of survival, particularly in nephroblastoma. Radiotherapy is a valuable adjunct to surgery and should always be used in the treatment of nephroblastoma. Chemotherapy is of limited value.

#### OPSOMMING

1. Eenhonderd agtereenvolgende gevalle wat groot buikmassas geïnterpreteer het, is ontleed.

Byna die helfte van hulle het aan 'n kwaadaardige kwaal gely, en byna die helfte van hulle, weer, was die slagoffers van nierembrioma.

2. Daar word gewys op die feit dat kwaadaardige kwale geen ongewone verskynsel gedurende die kinderjare is nie, en die moontlikheid van kwaadaardigheid moet gedurig in gedagte gehou word by die differensiële diagnose van enige klagte deur 'n kind. Dit skyn asof kinders in die ouderdomsgroep 1-4 jaar veral vir kwaadaardige kwale vatbaar is.

3. Wat groot buikswelsels betref, is die volgende die bevindings:

In die ouderdomsgroep 6 maande tot 6 jaar was byna 80% van die swelsels kwaadaardig. (Meer as 95% van die kwaadaardige buikkwale het onder

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hierdie groep voorgekom. Dit geld ook vir al die nefroblastomata in hierdie reeks).

In die ouderdomsgroep 0-6 maande was die meeste van die swelsels aan ernstige aangebore misvormings te wyte.

In die ouderdomsgroep 6 jaar en ouer was ruim driekwart van die swelsels die gevolg van chroniese ontsteking, goedaardige gewasse en siste.

4. Die vroeë diagnose hang in die eerste plaas af van die roetine-betasting van die buik van iedere kind wat vir ondersoek na die dokter gebring word. As die buikklont gevind word, is binnearse piëlografie gewoonlik nodig, en dit kan baie nuttig wees.

Proeflaparotomie moet uitgevoer word in alle gevalle waar 'n neoplasme vermoed word, of waar daar enige twyfel oor die diagnose bestaan.

5. Die prognose van kwaadaardigheid by kinders is ernstig. As dit in die buik voorkom, bereik minder as een-derde van die gevalle die ouderdom van vyf jaar. Dit geld veral vir nefroblastomata.

Indien die kwaal kragdadig en deeglik bestry word, kan talle nuttige lewens gered word.

6. Chirurgiese verwydering bied die pasiënt nog steeds die beste kans om die lewe te behou—veral in gevalle van nefroblastomata. Radioterapie is 'n waardevolle hulpmiddel vir chirurgie, en by die behandeling van nefroblastomata moet daar altyd gebruik daarvan gemaak word. Chemoterapie het slegs 'n beperkte waarde.

I wish to thank the Superintendents of the Hospitals concerned for permission to submit this report for publication.

I am indebted to all the members of my Staff in the Division of Surgery for their help and co-operation—particularly the Staff of the Children's Surgical Unit, the Department of Urology and the Department of Radiotherapy, who treated many of the cases.

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## CANCER OF THE PENIS

### A STUDY OF 41 CASES

DAVID S. CHAPMAN, M.B., B.S. (DURHAM), F.R.C.S. (ENG.)

*Department of Surgery, University of Natal, Durban*

(Continued from p. 820)

#### TREATMENT

Surgery for carcinoma of the penis is founded on two basic principles, removal of the whole organ and excision of the whole regional lymphatic drainage in continuity with the primary lesion. In many sites such surgery may be mortal or mutilating if ever curative.

Radiotherapy can to-day be powerful, precise and delivered over a wider field without

the danger of tissue necrosis; but the response depends on sensitivity and, as elsewhere, the sensitivity of the node deposits of penile cancer is usually less than that of the primary growth. Furthermore, the risks of radio-necrosis are far greater for the penis and the inguinal nodes than for most other sites because of the super-added infection, and, with it, the skin moisture, the thinness of the penile skin and the shape of the lesion.<sup>20</sup> In addition, radio-necrosis itself makes the assessment of the depth of growth of the cancer at any time difficult.

Because of the lymph node involvement of this tumour, until the terminal phase occurs by embolism, the treatment can be considered separately for the primary lesion and for the lymph nodes.

#### THE LOCAL LESION

##### Surgery or Irradiation?

(a) *Surgery* is safe and effective, but amputation of the organ is mutilating with loss of function and often psychological upsets.

For an early prepuce lesion, circumcision can be curative.

Partial amputation is preferable and usually possible since the local spread is direct and the crural fibrous sheaths resist spread until late. For cure and comfort it must be performed 1 inch proximal to the cancer and give a stump long enough to permit urine to clear the scrotum. It is a small operation but with considerable morbidity if precautions in technique are not taken.

Total amputation should be reserved for those cases with the erectile tissue involved or where the penile stump would be too short. A penile urethra is preferable to a short stump.

When the cancer has reached the abdominal wall, cure by surgery is impossible because of the fixation to deeper tissues.

(b) *Radiotherapy*. Thurgar<sup>9</sup> and Cade<sup>20</sup> speaking, it seems, for most British radiotherapists, consider this cancer in the main eminently radio-sensitive and prefer irradiation for the early localized cancer to give complete healing without mutilation, and amputation for the advanced case.

They give, however, a very long list of contradictions to irradiation:

1. If the lesion is deeply infiltrating: erectile tissue tolerates irradiation poorly, particularly when infected and radionecrosis is likely.
2. If the urethra is involved.
3. If the entire circumference of corona and glans is involved.
4. If there is gross sepsis.
5. The advanced age of patient.
6. The presence of diabetes, when necrosis is likely.
7. In recurrence after irradiation.

Tissue necrosis and so-called recurrence are the main complications. They are common, too. Other drawbacks of irradiation, shared no doubt in some instances by surgery, are obliteration of the coronal sulcus (predisposing to phimosis), slow healing from necrosis, hyperkeratosis (itself probably precancerous), impaired erection and meatal stricture, the last a frequent complication.

Considering the foregoing provisos, most cases seen by the clinician are already infected and this, in addition, may make assessment of depth often impossible. Many, too, involve the glans as well as the greater part of the corona and the prepuce.

Dean,<sup>18</sup> however, had 75% cures using X-ray therapy for superficial lesions of less than 2 cm. diameter; yet this is to be compared with 100% local cures when adequate amputation is performed (as in this series; also <sup>1</sup>).

Thurgar, in his own Newcastle series of 57 cases available for follow-up, found 17 requiring amputation after irradiation either for recurrence or necrosis.

Seven of the 8 cases in this series treated by X-ray therapy required amputation for the same complications.

Dodson<sup>11</sup> considers penile cancer particularly radio-resistant, requiring heavy doses and, because of this, would only countenance irradiation for small surface lesions.

Should amputation be required on failure of radiotherapy, not only is valuable time lost (often to be measured in months) but the penile stump will also be shorter than ever.

Radiotherapists seem to be far too optimistic. Cade,<sup>20</sup> in his summary, considers surgery safer than irradiation for lesions of the vulva, perineum, hands and feet. With the apparatus generally available to-day, I would add the penis to his list.

#### THE LYMPH NODES

Most centres, radio-therapeutic and surgical, favour surgical removal when cancerous nodes are mobile and palliative X-ray therapy when they are fixed, ulcerating or painful. The latter produces a temporary response in many cases, often for years. Cade advises irradiation by telerradium for mobile nodes and an excision if regression is not obtained. This will then in many cases be a very difficult operation.

Lederman<sup>21</sup> believed that all penile cancers should have irradiation by telerradium to the groins.

Some surgeons advocate a bilateral block dissection in all cases, as clinical assessment of



cancerous involvement of nodes is very difficult; yet, for very pertinent reasons to be discussed, most would advise a period of waiting in cases where no nodes are palpable or when they are clinically apparently enlarged by infection, using size, number, consistency and histology of the local lesion as control. By such a régime, in the follow-up after an amputation only, new palpable nodes are more important than those previously so and they may occur years later.

*When are the nodes enlarged by cancer or by infection?* This probably poses the greatest problem in assessment. Healthy men often have palpable groin nodes. With the cancer often necrosed and infected, especially when hidden by a phimosis and with inadequate drainage, the nodes are frequently enlarged. When stony hard and fixed, diagnosis seems easy and may be correct. If they are tender and mobile, they are probably enlarged by infection only. But things are not always what they seem. Tender mobile nodes may be cancerous; and firm, fixed matted nodes may be due to infection. Biopsy of a node may miss the only one involved. Prophylactic node excision may expose no metastases and cause great morbidity and disablement.

Therefore a period of waiting after amputation before proceeding to a bilateral node excision is advised. Yet our practice has been to advise a bilateral node excision for palpable nodes at the same time as amputation because of the inadequate response to follow-up by the non-White whose satisfaction with his appearance after amputation has weighed more heavily with him than the surgeon's advice.

The findings here amply support the findings of others, even allowing for the few cases submitted to lymph node dissection. Table 6 shows a comparison of this with other series and demonstrates very alarming features.

Dean<sup>18</sup> found half of those palpable free from metastases and he made 12 mistakes in clinical assessment. He also reported considerably more than 50% free from metastases when prophylactic dissection was done.

Lewis<sup>22</sup> had one third of his cases with node metastases, 2 years after onset whereas, if the history is reliable, our cases were reporting very much earlier (average 6 months) with extensive local lesions and perhaps then had not had long enough for lymph nodes to be involved.

Cade<sup>23</sup> judged 50% of his cases clinically involved.

Colby and Smith<sup>24</sup> in their series had less than 50% with nodes enlarged (21 of 50) and the disturbing findings that not only were but half (10 of 21) of those palpable, histologically affected, but that 4 of 11 not enlarged were affected by cancer. More than 50% of those subjected to block dissection were negative for cancer.

In this present series, in 13 personal cases, 9 had palpable nodes, and were advised lymph node excision. Of the 6 who agreed to this, 3 for suspected cancer showed no malignancy while of the 3 performed prophylactically one had malignant involvement. Of 8 submitted to excision in the whole series, only 2 were involved by malignancy. Yet 19 of the 41 cases had clinically cancerous nodes, some of these having X-ray therapy and others no treatment at all.

TABLE 6: LYMPH NODE INVOLVEMENT—COMPARISON OF SERIES

	Patients	Not Enlarged	Enlarged			Histological Metastases	Block Dissection
			Total	Judged Cancerous	Judged Benign		
Lewis <sup>22</sup> (1931) ..	34	Averaged 26 months duration after onset				13	
Hansson <sup>29</sup> (1933)	73	45	28				
Cade <sup>23</sup> (1956) ..	56			25			
Colby and Smith <sup>24</sup> (1931) ..	50	11	21			14 (10 of palpable; 4 of non-palpable)	32
Dean <sup>18</sup> (1935) ..	112	26	86	41 (5 not)	45 (7 not)	43	
This Series (1958)	41	12	29	19	10	3 (2 by biopsy)	8

Windeyer's is probably a reasonable summary.<sup>25</sup> He reported that one third of his cases had lymph node metastases when first seen.

In his extensive experience of carcinoma of the vulva, Way<sup>26</sup> has had similar problems of node assessment. In his 79 cases, of 36 with enlarged nodes, 21 (58.3%) were histologically involved. Of 43 without node enlargement and subjected to excision, 17 (39.5%) were histologically involved. Assuming node enlargement to indicate tumour involvement, the error was 41.7%, and if no enlargement meant non-involvement, the error was 39.5%. The total error by clinical evaluation was 40%.

The lymph node excisions are lengthy, tedious and often shocking operations. They may lead to a stormy convalescence, due to sloughing and infection by dissection of infected fields, particularly in patients already in low condition.

An extensive dissection in a sick man is not justified. Surgery should be planned in two stages: First for the primary lesion and then for the lymph nodes; and the node excision should be planned as possible of termination at any point, either leaving one side or part of one side to a later date. Most cures are in those where biopsy of the nodes is negative or where

TABLE 7: STAGING OF DISEASE

1 <i>Local Only</i>	2 <i>Local + Mobile Operable Nodes</i>	3 <i>Local + Fixed Inoperable Nodes</i>	<i>Unable to Classify</i>
13	16	7	5

From such an analysis, staging as described by Hansson<sup>27</sup> is of little use in providing a plan for treatment. By his method, many of our cases (Table 7) were well advanced yet the histological findings of those submitted to radical lymph node dissection did not support the assessment.

Once advised, the lymph node excision must always be bilateral and carries the considerable hazards of shock, flap necrosis, delayed healing and the risk of a painful swollen lower limb and scrotum, especially when iliac nodes are included in the dissection, as they should be. This is a great price to pay when we consider that more than half of those with palpable nodes are free from metastases and considerably more if the dissection is a prophylactic one.

there are no metastases in the nodes removed. After amputation in a poor-risk case even with palpable nodes, no further treatment may be needed, as the nodes often regress. With the infected process removed or under control and the nodes still palpable, a bilateral inguinal-femoral-iliac dissection is done.

It is also evident that if one subscribes to the conception of embolism as the mode of spread to the lymph nodes, then the bilateral excision *en bloc* with the primary as advocated by Young<sup>28</sup> is unnecessary, although consistent with the principles of cancer surgery.

If nodes are to be removed at the same time as the primary, they should be excised through two separate groin incisions with a partial or total amputation as decided. Then, one or both of these dissections can be post-

Fig. 18: Summary of Treatment

<i>Local Lesion</i>	Tiny	Circumcision—Prepuce only or Irradiation
	Diameter greater than 2 cm.	Partial or Total Amputation
<i>Lymph Nodes</i>	Not Palpable	Wait
	Palpable: Clinically infected	Wait
	Clinically cancerous	Bilateral Inguino-Femoral-Iliac Excision with or after -Amputation

poned if the risk is too great. To Graves<sup>29</sup> should go the credit of advising this technique, which has greatly improved the recovery rate.

Colby and Smith<sup>24</sup> found the best survival rate with those not having lymph node removal but naturally these were cases with less malignant tumours and a shorter history. There are relatively few 5-year survivals when nodes are involved at the time of operation.

With our present facilities, the most satisfactory plan of treatment would be as outlined in Fig. 18.

#### SOME POINTS IN SURGICAL TECHNIQUE

##### CIRCUMCISION

A method which many of us learnt as beginners and a most useful one for any patient after middle age, especially for those with a chronic fibrotic phimosis, has been revived by Paul to avoid incision of cancerous tissue, the extent of which cannot be measured until the sac is opened. Incision is made around the preputial skin at the level of the coronal sulcus (Fig. 19) and the latter entered from its proximal and outer aspect.

##### AMPUTATION OF PENIS

1. *The Urethra* (Fig 20). For both conservative and radical penile excisions the greatest problem is the prevention of a stricture of the new meatus. The results in this series confirm the method of completely avoiding this, which is that encouraged by Riches<sup>30</sup> for the re-insertion of a ureter after certain bladder operations. The urethra cannot without difficulty be separated from the crura, there being no ready plane of cleavage until the bulb is reached, but enough of it is patiently freed (Fig. 20 a) to give

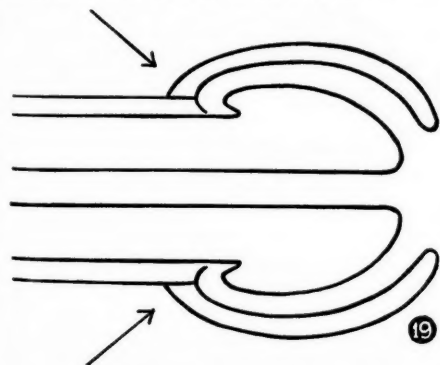


Fig. 19. Approach for circumcision for fibrotic prepuce and cancer.

at least half an inch of it protruding through a new opening (Fig. 20 c) in a long inferior flap (for a partial amputation) and not through the skin suture line. Excising a small oval of skin through which it will pass is a help, but the main feature is to have the half inch length and to split it down each side as far as the cutaneous opening to give 2 equal flaps (Fig. 20 d) which are then sutured to the skin well beyond the opening (Fig. 20 e). Retraction and thus fibrosis by granulation (where the urethral flaps pass the cutaneous edges at the sides) is minimized by opposing the flap edges to the cutaneous border by a mattress or Gillies suture on each side (Fig. 20 f). The redundant portion of urethra sloughs, leaving a soft mucosal rosette which does not stenose. A catheter, soft and loose to avoid urethral trauma, is usual for a few days.

2. *Partial Amputation.* All types of skin incisions and flaps have been advised: circular, equilateral and equal superior and inferior flaps, long superior or long inferior flaps. The

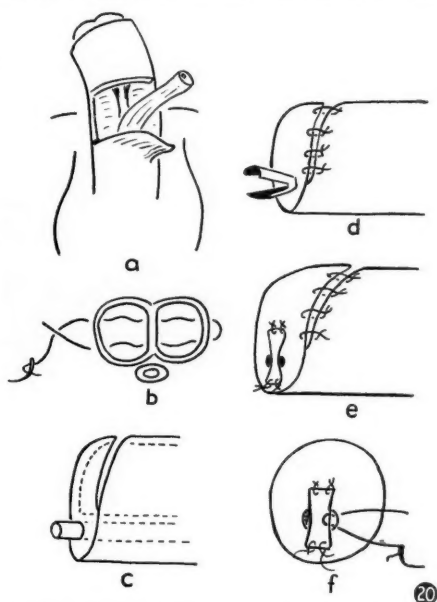


Fig. 20. Some Points in the Technique of Partial Amputation of the Penis:

- (a) Detaching the corpus spongiosum from its bed.
- (b) The mattress suture for the sectioned crura.
- (c) The urethral tube ready for fashioning a new meatus.
- (d) The urethra split and the skin flap sutured.
- (e) The new meatus.
- (f) End view of the new meatus to show mattress (or Gillies') suture at the mucocutaneous junction.

longer inferior flap is preferred so as to bring the suture line superior and thus minimize soiling during the healing phase, and enable the new urethra to lie naturally (Fig. 20, a and e).

A catheter tourniquet is used at the penile base to give a bloodless exposure of the parts.

After ligation of the large surface veins and before section of the corpora cavernosa, the corpus spongiosum is separated first so as to avoid accidental section of the urethra at the level of the crural section.

To limit bleeding and avoid dissemination of cancer cells, some surgeons advise the use of the high frequency current for corpus section; but all heating currents provoke necrosis beyond the line of section, and of erectile tissue especially. To avoid infection of the stump, haematoma must be prevented and this is well done by ligating the main vessels in the corpora. and then closing the latter by mattress catgut sutures, apposing the fibrous sheath on each side and picking up the common septum at the same time (Fig. 20 b).

3. *Radical Amputation.* Most, following the classical description of Pearce Gould,<sup>31</sup> would use a racquet incision at the penile base with the handle splitting the scrotum in the median raphe and extending on to the perineum; but Paul<sup>1</sup> rightly points out that the scrotal spilt can be dispensed with, reducing the fear of sepsis there and an adequate exposure of the crura is obtained through a perineum incision separate from the basal penile one. This also enables the new urethral meatus to be placed away from the suture line.

Involvement of the crura is by direct spread and not by metastases, and thus removal of the whole crus (which so often leads to bleeding hidden under the ischial ramus and difficult to control) is not encountered. The operation, although radical, is not then total, as demanded by Pearce Gould. The crus can be cut off at a level convenient for closure of its stump in the way already described and this is usually just proximal to the site of fusion of the crura to form the penis.

For penile cancer, none of us can hardly be more than 'occasional' surgeons and I would stress, to save embarrassment, the surprising length and thickness of the suspensory ligament and the depth and obliquity of the pubic arch. After detachment of the former large structure, dissection must be painstaking to expose and protect the large dorsal vein or veins which should be ligated well clear of the arch to avoid retraction of the open end into the pelvis beyond one's control. The surrounds of the vein at the arch are very fibrous and do not take kindly to suture.

4. *The Lymph Node Dissection.* This must be a bilateral inguino-femoral-iliac excision, including with the nodes all the intimate deep fascia, vascular sheaths and areolar tissue.

The skin incision should be enough to expose the lower 3 inches of the abdominal wall, the whole of the femoral triangle, and the medial subinguinal region.

If an incision in the line of the groin is chosen, it needs an extra vertical one to expose the lower saphenous group of nodes. Flap necrosis is common enough in groin dissections. It is inevitable with such a T-incision.

I have experience of a number of exposures claimed by their originators to avoid flap necrosis. In my hands flap necrosis still repeatedly occurs. It seems more certain if an adequate clearance has been attained.

For carcinoma of the vulva, Way<sup>32</sup> now uses an almost straight vertical incision crossing the groin skin crease centrally, and has reduced necrosis by not making the skin flaps too thin and nursing the patient in the first few days with the hip moderately flexed. Most men we have dealt with have been very slim and, after adequate removal of fascia, fat and nodes have virtually had extensive full thickness skin grafts remaining for cover. It is very difficult at operation to decide how much of this will die.

Lee<sup>33</sup> has devised an extensive rotation abdominal graft to cover the deficiency made in the groin after he sacrifices the 'inevitable' flap corners. But how much does one excise?

A vertical curved incision similar to that shown in Fig. 21 (B) is advised by Raven<sup>34</sup> and is said to be free of trouble.

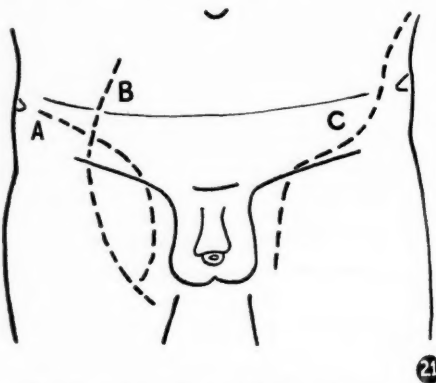


Fig. 21. Incisions for Inguino-femoral-iliac node resection.

- A: Graves.
- B: Vertical curved.
- C: Gray and Bailey.

Circum-  
Partial  
Radical  
  
Radioth-  
Treatm-  
Treatm-

Recently we have used an incision (C in Fig. 21) described by Gray and Bailey<sup>35</sup> which is a modification of Graves' incision (A in Fig. 21). This certainly gives a beautiful exposure by cutting the abdominal wall muscles well laterally above and outside the anterior superior iliac spine, lifting the inguinal ligament off the fascia lata as far medially as the great vessels and thereby displacing all these medially with the peritoneum. It allows resection of the nodes in continuity from the apex of the femoral triangle to the common iliac bifurcation or beyond. Unfortunately, flap necrosis has been no less in my hands with this exposure than with others.

After loss of blood supply by extensive dissection is accounted for, the two commonest causes of skin death are excessive lymph or serum collections beneath the flaps and infection in an infected case. The first is barely controlled by pressure dressings and not always by suction drainage (preferably by a tube passed out through the lateral end of the wound); it is frequent and often persistent yet is occasionally surprisingly absent. The second is no less in patients with long standing sepsis when they might have been expected to build up a strong local immunity.

However despondent one may be over these setbacks, one must never abandon the principles of tissue care. The incision must be long enough to allow full access and it is a mistake to reduce its length to try to minimize skin death. The flaps must not be mauled in any hurry to finish what is always a long operation. Tissue forceps are best avoided, the flaps elevated by skin hooks or the fingers and no traction allowed. There must be no tension of skin closure. Paradoxically, with the removal of much tissue the flaps often have a greater area to cover than before because they now lie in a deep valley.

Shock is reduced if each side is done separately. Two teams working together may look

very businesslike and cause twice as much trauma and shock. Vasoconstriction compensating the latter must inevitably hinder the survival of the flaps.

The dissection is conducted in 3 distinct steps and it can be stopped at the end of any one of these.

The *first stage* consists of removal of all nodes, fat and fascia from the abdominal wall, the inguinal ligament, the external inguinal ring and for a short distance down the spermatic cord, from all the femoral triangle and carrying with it the terminal 3 inches of the long saphenous vein.

The *second stage* involves the excision of the femoral sheath.

In the *third stage* the nodes and the areolar tissue are removed from around the iliac vessels at least as far as the iliac bifurcation. This is an extra-peritoneal dissection from above downwards. It is usually necessary to ligate the inferior epigastric artery. With the risk of flap necrosis the femoral vessels must not be left bared. The sartorius is detached and displaced medially to be apposed to the inguinal ligament over the vessels.

## COMPLICATIONS OF TREATMENT

### THE PENIS (TABLE 8)

#### (a) Surgery (24 Cases):

1. When urethral flaps were not fashioned, meatal stricture inevitably occurred. Of the 12 cases well recorded on this issue all 7 without flaps developed a stricture and 5 with urethral flaps did not.

2. There were no cases recorded of infection of the penile stump, although about half of my own cases had mild suture inflammation.

3. There were no reports of a penile stump being too short after partial amputation. My last case, an old man of 75, has shown how a redundant scrotum can swallow a short penis or penile stump. He has a large scrotal hernia which will require repair after partial amputation.

4. Psychological upsets have not been reported following amputation. Eleven personal

TABLE 8: TREATMENT OF LOCAL LESION—METHODS AND COMPLICATIONS

	Total	Recurrence	Tissue Necrosis	Meatal Stricture
Circumcision Only .. .. .	1	0	0	0
Partial Amputation .. .. .	13	1	0	2
Radical Amputation .. .. .	11	0	0	5 (1 had retention)
Radiotherapy .. .. .	8	5	2	0
Treatment Refused by Patient .. .. .	5			
Treatment Refused by Radiotherapist .. .. .	3			
Total	41	6	2	7



cases have been seen since operation on at least one occasion and all are satisfied.

There was one case of recurrence after partial amputation and total amputation followed. The scanty records of this case did not give the reason why. It is recognized that recurrence after adequate amputation does not occur.

(b) *Radiotherapy* (8 Cases):

1. Meatal stricture is reported repeatedly in other series after irradiation and can be troublesome enough to require regular bouginage. That no cases were recorded in this series is explained by the complications in 7 of the 8 cases subjected to irradiation, of tissue necrosis or recurrence and probably at the end of this treatment they were little different from when they began it.

The high incidence of tissue necrosis from irradiation, in 2 of 8 cases, is noted. Both required amputation.

Recurrence was reported with 5 of the 8 cases. My opinion is that all or most of these did not in fact have any beneficial effect from the radiotherapy and some were probably cases of tissue necrosis.

Five patients refused treatment. Two of these personal cases, both advanced, returned repeatedly to hospital hoping against the obvious advice and finally were not seen again.

THE LYMPH NODES (TABLE 9)

(a) *Surgery* (8 Cases). Likely complications of surgical treatment are flap necrosis, lymph collections, lymphoedema of the lower limb and recurrence.

In this series all 8 cases of resection had varying degrees of flap necrosis. In the 3 cases, when the technique of Gray and Bailey was used for an inguino-femoral-iliac excision, there was a lesser degree of flap necrosis and none had lymph collections. Three inguino-femoral resections developed large lymph collections which no doubt reduced the viability of the flaps. All cases were skin-grafted within a few days of the excision and sound wound healing followed. There was no disability by contracture following this complication.

The two cases which had lymphoedema of the lower limb were strangely those which had the lesser resection done. Both were slight and temporary and in no way disabling.

No recurrence has been reported in the 6 cases seen up to 6 months after operation.

(b) *Radiotherapy* (5 Cases). There were two instances of recurrence, both expected in very advanced cases. Pathological fracture of the femoral neck, a complication in other series, was not recorded.

RESULTS

Except for the record of the high incidence of of immediate morbidity in this series, no true follow-up was possible. From the records available at least 4 cases have returned for other reasons 2 years after treatment.

Thurgar<sup>9</sup> considered, after extensive analysis of various series, that none of them was large enough to be of any value in a 5-year assess-

TABLE 9: TREATMENT OF LYMPH NODES—METHODS AND COMPLICATIONS

1. All Cases:	Total	Recurrence	Flap Necrosis	Swollen Limb
Radiotherapy .. .. .	6	2		?
Inguino-Femoral Resection	5	2	5	2 (+ unknown)
Inguino-Femoral-Iliac Resection .. .. .	3		3	
No Treatment Advised .. .. .	16			
Radiotherapy Advised but Refused .. .. .	1			
Resection Advised but Refused .. .. .	3			
Unknown .. .. .	7			
	41	4	8	

2. Personal Group:				
Radiotherapy .. .. .	1	0		0
Inguino-Femoral Resection .. .. .	3	0	3	2 (slight)
Inguino-Femoral-Iliac Resection .. .. .	3	0	3	0
No Treatment Advised .. .. .	3			
Radiotherapy Advised but Refused .. .. .	0			
Resection Advised but Refused .. .. .	3			
	43	0	6	2

ment. The series of Hansson, Cade, Lederman, Windeyer and Thurgar gave a 5-year cure rate of from 45% (Cade) to 68% (Thurgar).

### CONCLUSIONS

1. Cancer of the penis is one of the commonest male cancers of the uncircumcised African, allowing pride of first place only to sarcoma in all sites, cancer of the liver and of the oesophagus, in that order.

2. Partly from shame and fear but mainly through lack of pain, there is a delay in reporting in many cases until the local lesion is far advanced.

3. Preputial hygiene is probably the most important single factor determining the foreskin fate.

4. Precancerous lesions of the penis are varied and common. The condyloma acuminata is to be greatly feared even in the young man and especially if it is growing.

5. The local spread of the lesion is by continuity and contiguity.

6. The lymph node spread is by embolism and is late. The physical signs are uncertain.

7. A biopsy of the local lesion is essential and preferably by circumcision, which may be curative.

8. Partial amputation is preferred as treatment for the primary lesion, if at all feasible, followed by a short observation period of the lymph nodes. If enlarged nodes remain the same, or progress, a full bilateral inguino-femoral-iliac excision is carried out. If they subside, observation is continued.

9. From the analysis of this and other series it is clear that there is no easy road in the management of this cancer; that not only can diagnosis be very difficult but the treatment also can be fraught with many snares.

10. In this study some special points in surgical technique have been described and the complications of treatment discussed.

### OPSOMMING

1. Kanker van die penis is een van die mees algemene vorms van kanker by onbesnede natuurelmans. Dit gee voorrang slegs aan sarkoom in alle plekke, kanker van die lewer en van die slukderm—in daardie volgorde.

2. Gedeeltelik ten gevolge van skaamte en vrees, maar hoofsaaklik omdat daar geen pyn is nie, versuim natuurelle in baie gevalle om die siekte aan te meld totdat die plaaslike letsel 'n gevorderde stadium bereik het.

3. Voorhuid-higiëne is waarskynlik die belangrikste enkele faktor in die lotgevalle van die voorhuid.

4. Voor-kankeragtige letsels van die penis is uiteenlopend van aard en 'n gewone verskynsel. Die

smalpuntige kondiloom is iets wat groot vrees behoort in te boesem, selfs by die jong man en veral as hy nog aan die groei is.

5. Die plaaslike verspreiding van die letsels geskied deur samehang en aangrensing.

6. Die limfknoop-verspreiding geskied deur embolisme, en is 'n latere verskynsel. Die fisiese tekens is onseker.

7. 'n Biopse van die plaaslike letsel is noodsaaklik, en die beste manier om dit uit te voer, is deur besnydenis wat 'n genesingseffek kan hê.

8. Gedeeltelike afsetting is die verkieslike behandeling vir die primêre letsel indien dit enigins moontlik is, gevolg deur 'n kort tydperk gedurende welk die limfknope waargeneem word. As die vergrootte knoppe onveranderd bly of uitbrei, word 'n volle tweesydige lies-dy-heup-uitsnyding onderneem. As hulle bedaar, word die waarneming voortgesit.

9. Uit 'n ontleding van hierdie en ander reekse blyk duidelik dat daar geen maklike weg tot die beheer van hierdie besondere vorm van kanker is nie; en dat nie alleen die diagnose baie moeilik kan wees nie, maar dat ook die behandeling met talle lokvalle gepaard kan gaan.

10. In hierdie studie word 'n aantal spesiale aspekte van die chirurgiese tegniek beskryf, en die verwikkelinge wat moontlik op behandeling kan volg, word bespreek.

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## HYPNOSIS IN SURGERY

M. ARNOLD, F.R.C.S., ED.

Johannesburg

The purpose of this review of the status of hypnosis in modern surgery, and of the appended case report, is to draw attention to the practicability of hypnosis as a means of anaesthesia in special cases. In the case reported here, the patient refused to accept general or local anaesthesia. No plea is made for the substitution of hypnosis for other forms of anaesthesia except in special cases, but the profession is reminded of the possible usefulness of hypnosis, either alone or in combination with other forms of anaesthesia.

Marmer<sup>1</sup> commences his discussion of the role of hypnosis in anaesthesiology as follows:

'Hypnosis can be a valuable addition to the armamentarium of the anesthesiologist. It is unfortunate that the application of the principles of this technique has been almost neglected in the present-day practice of anaesthesiology. Instruction in the principles of hypnosis should be incorporated into the training in anaesthesiology. In fact, every anesthesiologist should also be a hypnotist.'

He goes on to review the history of hypnosis.

'The first attempts to perform surgery while the patient was under hypnosis were made in France, by Dupotier and Recamier, in 1821. (He omits to mention whether these were at all successful). Jules Cloquet, in 1829, removed a breast while the patient was in a mesmeric sleep. By 1837 John Elliotson had established an enviable reputation as one of the ablest surgeons in London. He performed many operations with the patients under hypnosis, but he was finally asked to resign his post because of alleged charlatanism . . . In 1842, a surgeon named Ward performed a mid thigh amputation on a patient in the mesmeric state.'

Reviewing recent advances (in 1956), he states:

'Although in the past 10 years new interest in the use of hypnosis has become evident, anesthesiologists as a rule are still more comfortable when

they use drugs than when they employ the less familiar psychological techniques. However, if physicians understood more clearly what hypnosis is and what can be expected of it, I believe that it would be utilized much more widely and effectively. *It is the only means of anesthesia that carries no danger for the patient. Hypnosis raises the patient's threshold to pain. Actually, perfect anesthesia should be attained by employing hypnotism in conjunction with chemical agents.* Hypnosis can be a pleasant experience, involving no tension or apprehension. It can be maintained for long periods and terminated at will, and it has the superlative advantage of placing no extra load on the circulatory, respiratory, hepatic or renal systems.' (Italics inserted).

Assessing the effects, he continues:

'Hypnosis is invaluable not only as a means of sedation before and after operations but as an auxiliary method of anesthesia or a means of achieving total anesthesia. *Hypnoanalgesia is especially useful when employed in conjunction with other anesthetic procedures because it reduces the amount of chemical agents used.* . . . Hypnosis alone can be employed in such procedures as incision and drainage, short orthopedic operations, or extractions of teeth.' (Italics inserted).

He then reports the effective employment of hypnoanalgesia for the resection of the lingula of the left lung for tuberculoma in a female of 25. He noted that the patient refused to accept the suggestion that she should hold her breath, and responded in fact by breathing more rapidly. Apnoea was achieved by succinylcholine, and respiration was controlled for 45 minutes, during which time hypnotic suggestion was maintained, being effective thereafter for closure of the wound.

Crasileck and Jenkins<sup>2</sup> list the special indications for hypnosis as a method of anesthesia as follows:

1. Bad risk heart and lung cases.
2. Paralyzed respiratory muscles in childbirth.
3. Sensitivity to local anaesthetic drugs.

4. Frequent small operations, such as burn dressings and skin grafts.
5. Fear of general anaesthesia.
6. Prolonged operations.

Mason<sup>3</sup> reports a second stage mammaplasty in a female of 24, following a stormy post-operative course after the first stage 6 months before. No premedication was given on the morning of operation, and the patient was allowed a normal breakfast 2½ hours before operation. Shock was not manifested after an operation lasting 70 minutes.

Owen-Flood<sup>4</sup> objectively discusses hypnosis and the anaesthetist. He advocates a very simple technique, avoiding the apparent mumbo-jumbo of stage performers, and relying instead on minimal amounts of a 2½% solution of thiopentone for the initial induction. Thereafter:

'it will not be necessary to inject thiopentone at the next sitting, for before awakening your patient you will give him the signal (e.g. counting up to 3), and command that the next time you say it he will fall asleep without the prick of the needle. This post-hypnotic command will be obeyed.'

He states that thiopentone 'is positive in its action, and it works in 100% of cases, all important factors in hospitals.' He has used hypno-narcosis mainly in the management of epilepsy, in which he finds that, while not curative, it can control the fits so that they occur at night, in safe circumstances; also in the treatment of masturbation, somnambulism and nocturnal enuresis.

Of particular interest is a case of laparotomy which was anaesthetized solely by hypno-narcosis. The patient was a female aged 27 who had been under treatment for an anxiety neurosis. She developed signs of a chronic appendicitis, confirmed by X-rays. No premedication was given. She grimaced slightly on opening the peritoneum, but maintained her blood pressure at 120/90 mm. Hg. There was slight stiffness on suturing the peritoneum, but not sufficient to impede the work of the surgeon. Returning to the ward, the blood pressure fell steeply to 80 mm. Hg, and she showed 'all the classical signs of shock,' relieved rapidly by morphine gr. ¼ intravenously. Subsequent recovery was uneventful.

The author<sup>5</sup> has previously recorded the case of a male aged 24 who had been conditioned by a lay hypnotist for repair of a recurrent inguinal hernia. No premedication was given. The surgeon recited a prescribed formula, which was effective for about 15 minutes. Subsequent reinforcement was necessary when repeated traction on adhesions was required, the patient groaning each time. The skin itself, the most sensitive of integuments, was quite

anaesthetic both during the excision of the previous scar and during the final suture. There were definite signs of shock during the operation, which lasted 1½ hours—sweating, pallor and tachycardia. One felt that much of this might have been avoided if the lay hypnotist had been permitted to be in attendance. Convalescence was rapid and uneventful.

#### CASE REPORT

A male aged 21 years sustained a closed injury to the roots of the left brachial plexus on 2 February 1957, with fracture of the pedicle of C3, a Horner's syndrome, anaesthesia of dermatomes C6, 7 and 8, and paralysis of myotomes C5 to T1. After 18 months of conservative treatment, a panel of doctors was of the opinion that no further recovery could be expected. The only movement possible was slight medial rotation of the arm by the pectoralis major. The limb showed marked atrophy of all muscles before operation, but sensation was present and normal above the elbow (C5 and T2). Amputation was earnestly requested by the patient, who found his incubus intolerable.

On 10 September 1958, after he had been prepared by a lay hypnotist for several weeks, hypnosis was induced in the theatre (by the lay hypnotist), and maintained throughout the operation, which lasted for 43 minutes. No premedication was given. Mid-arm amputation was performed under apparently complete anaesthesia. Bleeding was normal in amount, though strong suggestion was used to try to minimize it. At the end of the operation the patient rolled over promptly when told to do so, to be bandaged. A post-hypnotic suggestion was given that there would be no pain for 2 hours, and the patient was awakened. He sat up briskly and insisted on shaking hands all round. He had to be dissuaded from walking back to the ward. No post-operative sedative was necessary.

Observations by specialist anaesthetist, who was in attendance, were as follows:

*Just before Induction:* The knee and ankle reflexes were normal, but the plantar reflexes were absent. Colour, pale.

*During Induction:* Blood pressure, 122/85 mm. Hg; pulse, 84 per minute.

*Skin Incision:* Blood pressure, 120/80 mm. Hg; pulse, 90 per minute.

*Fascial Incision:* Blood pressure, 112/70 mm. Hg; pulse, 72 per minute. After a few minutes the pressure was 100/70 mm. Hg; pulse, 70 per minute.

**Muscle Incision:** Blood pressure, 100/70 mm. Hg; pulse, 95 per minute. Sweating of the face.

**Division of Bone:** Blood pressure, 110/75 mm. Hg, then 116/75 mm. Hg; pulse, 80 per minute.

**Skin Suture:** Blood pressure, 122/85 mm. Hg; pulse, 84 per minute. Colour returned to normal.

#### CONCLUSION

There can be no doubt that hypnosis in selected cases offers the possibility of safe and effective analgesia.

The average anaesthetist may have difficulty in mastering the technique of the lay hypnotist, but should be able to learn that of hypnosis as described by Marmer.

No one who has witnessed surgery under hypnosis needs to be convinced of its advantages, and the time has come for its inclusion in the repertoire of the anaesthetist.

### SOME CLINICAL APPLICATIONS OF AUTOHYPNOSIS

ARNOLD A. LAZARUS, M.A. (RAND)

Johannesburg

Although hypnotic techniques have achieved considerable scientific prominence, much diversity of opinion still exists about their therapeutic value. In fact, few therapies in the history of medicine have simultaneously enjoyed such widespread acclaim and such extensive condemnation as has hypnosis. Viewed in its entirety, the history of hypnosis reveals fluctuations between short periods of intense interest and long periods of general disinterest and obscurantism.

It is relevant that Freud referred to psychoanalysis as 'the administrator of the estate left by hypnotism'.<sup>1</sup> Freud abandoned hypnotism and adopted 'free association' primarily because he found that not every patient could be hypnotized and that even those who could be and were helped by direct suggestion, did not remain permanently cured. The ephemeral nature of many hypnotic cures is indeed one of the chief limitations of hypnotherapy. Hull,<sup>2</sup> for instance, stresses that 'striking improvements in symptoms observable during the trance too often disappear disappointingly soon after its termination, and in spite of the use of vigorous post-hypnotic suggestion.' The

'n Oorsig van die toepassing van hipnose en self-hipnose in chirurgie word verstrek.

By narkotiseurs word daar aangedring om 'n onbevooroordeelde houding aan te neem teenoor die voordele waarop aanspraak gemaak word, en om die eenvoudige tegniek van hipno-narkose, soos deur Marmer aan die hand gedoen, aan 'n billike toets te onderwerp. Dit bestaan uit die binne-aarse inspuiting van 'n 2.5%-oplossing van tiopentoon teen 'n spoed wat stadig genoeg is om die verlangde toestand teweeg te bring, maar geen bewusteloosheid veroorsaak nie. In hierdie toestand word suggesties maklik aangeneem. Op latere sessies sal die pasiënt die toestand waarskynlik binnegaan op 'n vooraf-gereelde teken, selfs al word 'n inspuiting nie gedoen nie.

Na-hipnotiese suggestie bied 'n ideale metode om pynlose herstel in uitgesoekte gevalle te bewerkstellig.

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present paper, however, will endeavour to show that the application of autohypnotic techniques can completely surmount this crucial drawback. Thus the emphasis is on autohypnosis as a practical method of circumventing the temporary nature of most heterohypnotic procedures.

By autohypnosis is meant the ability to induce, *upon oneself*, the trance of sleeping hypnosis together with such of its phenomena as may be desired.<sup>3</sup> This condition is of the greatest psychological interest and its uses and possible theoretical implications are almost unlimited. As Wolberg<sup>4</sup> states: 'Self-hypnosis is a means of reinforcing indefinitely hypnotic suggestions.' It enables the patient to function without the need for a dependent relationship on the hypnotist. Thus a patient's mastery of autohypnosis often contributes to his self-confidence and general independence.

Several techniques may be employed to produce autohypnosis.<sup>3</sup> The present writer has a preference for the following procedure:

The patient is hypnotized and told that by saying the words 'deeply asleep' 5 times, he will in fact put himself into a deep hypnotic



sleep. He may then give himself whatever therapeutic suggestions are indicated, and finally awaken himself by saying the words 'wake up' 5 times. Innumerable variations are, of course, possible. This procedure merely amounts to a convenient post-hypnotic suggestion of autohypnosis, and is described in detail by Salter<sup>3</sup> and Wolberg.<sup>4</sup>

It is possible (although undesirable) to train a person so thoroughly in autohypnosis that he will be able to induce upon himself all the phenomena of hypnosis. This includes catalepsies, amnesias, anaesthesias, varied post-hypnotic suggestions, and even positive or negative visual and auditory hallucinations. Since patients can sometimes abuse its powers, autohypnosis should be handled like a dangerous drug and only dispensed with extreme caution and discretion. For instance, there is a risk that a patient who is proficient in the use of self-hypnotic anaesthesia, might conceivably mask physical ailments. The present writer has therefore made it a general policy to give patients heterohypnotic suggestions that block undesirable autohypnotic anaesthesias and analgesias.

A 20-year-old girl complained of excruciating menstrual pains which usually incapacitated her for 48 hours. Her gynaecologist had prescribed certain tablets which produced nausea and dizziness. She was sensitive to all salicylate compounds and her family doctor had warned her against 'pain killers,' e.g. morphine. Consequently, she was trained in autohypnosis and conditioned to employ the term 'no pain' as an analgesic agent. When she had mastered this technique, she was again hypnotized and told that this method would only be effective in counteracting specific menstrual pain. It was emphasized that she would not be able to 'switch-off' any other type of pain.

Salter<sup>3</sup> states that he has used autohypnosis with success in cases of stuttering, nail biting, anaesthesia for dental use, insomnia, smoking and the 'will to diet.' He also reports gratifying results with actors who were taught to employ self-hypnosis to combat self-consciousness. Rachman<sup>5</sup> reports the value of an interesting post-hypnotic procedure which closely approximates autohypnosis:

Mr. D. C., a 21-year-old student, complained of an inability to concentrate while studying. After several practical suggestions had failed to bring about an improvement, hypnotic procedures were introduced. He was hypnotized on 5 separate occasions and responded well each time. During the trances he was, in fact, able to study without being distracted, but a simple post-hypnotic suggestion that in future he would be able to concentrate without difficulty, had little effect. During the fifth hypnotic trance he was told that whenever he wished to study, he should place a particular ash-tray on his desk and that the presence of this ash-tray would re-create the non-distracting conditions experienced

during the ordinary trance. This technique proved successful.

The value of autohypnosis is shown in the case of a 40-year-old woman who was cured of a crippling manifestation of 'anxiety-hysteria.' As this case has interesting theoretical ramifications, a detailed presentation is given below:\*

Mrs. M., the illegitimate daughter of a prostitute, spent her first 3 years in an atmosphere of disruption and decay. She was reared in the basement of a Parisian brothel until social welfare workers intervened and removed her to an orphanage. Her adolescent years were spent in London and, shortly before the outbreak of war, she returned to the Continent and married a rich industrialist. Her husband was killed in action and during the war she witnessed numerous atrocities and was allegedly raped by German soldiers. After the war she experienced a 'mental breakdown' and underwent almost 5 years of psychoanalysis with a Viennese analyst. She claimed that this treatment was mildly successful in rendering her less prone to sexual recriminations, but what she termed her 'panic attacks,' remained unaltered.

She described herself as living in an almost perpetual state of anxiety, but at about weekly intervals she would experience a sensation of mild panic which became progressively more intense in the span of only a few minutes until this feeling became so unbearable that she would scream with sheer terror, throw herself on the floor, and attempt to render herself unconscious. The intense panic would gradually subside after 4 or 5 minutes.

A detailed neurological examination apparently ruled out the presence of epilepsy or other cerebral pathology. She reported that her psychoanalyst had linked her 'panic attacks' with previous real or imagined sexual traumata.

In 1952 she became the mistress of an English barrister and moved to London until 1955, when she became estranged from her lover. She stated that while in London, she underwent about 20 insulin coma treatments which led to an exacerbation of her condition. She came to South Africa towards the end of 1955 and consulted a psychiatrist who allegedly suggested a leucotomy.

The present writer treated her during July 1956. She was seen 15 times over a period of 4 weeks. After the initial diagnostic sessions (during which we unsuccessfully attempted to trace any specific factors which might have preceded her panic states)

\* It should be noted that the following detailed information about each patient is obtained as a matter of routine before embarking on any therapeutic undertaking:

- (a) A full report from the referring doctor;
- (b) A detailed life history;
- (c) Psychological tests and psychodiagnostic interviews for the purpose of obtaining comprehensive understanding of the patient as a person; and
- (d) Where any doubt exists about the presence of associated or underlying latent psychotic manifestations or of organic brain involvement (as may arise from the results of the psychological tests and psycho-diagnostic interviews) the referring doctor is requested to seek the aid of a psychiatrist in the elucidation of the problem and his advice concerning treatment.

she was given concurrent training in relaxation and hypnotic procedures. Repeated post-hypnotic suggestions to the effect that she would no longer experience her attacks of panic had no ameliorating effect whatsoever. She was experiencing these attacks at 5-7 day intervals and became depressed and suicidal when the ordinary hypnotic therapy failed.

Autohypnotic techniques were then administered and the patient was soon able to put herself into a fairly deep hypnotic trance by saying the words 'deeply asleep' 5 times. She was instructed to employ autohypnosis as soon as she felt an oncoming attack of panic and to suggest to herself that, on awakening from her trance, she would feel completely calm and relaxed. This proved highly successful and she was thus able to circumvent her panic states. She reported that the entire autohypnotic sequence took less than a minute. At first, this method merely succeeded in reducing the intensity of her panic states, but as she became more proficient at autohypnosis, she managed to block these attacks completely.

A follow-up enquiry, after 22 months, revealed that she was generally less anxiety-ridden and that her attacks had diminished in frequency to less than once in 2 months. She still successfully used the autohypnotic procedure when necessary. Contrary to psychoanalytic expectations, this patient did not develop alternative symptoms.

This case therefore incidentally adds to the accumulating evidence against the repression theory. (See especially Wolpe,<sup>6</sup> Eysenck,<sup>7</sup> Salter,<sup>3,8,9</sup> and Phillips<sup>10</sup>).

The main theoretical interest in this case lies in the fact that the autohypnotic procedure not only succeeded in reducing the intensity of the anxiety attacks but also diminished their frequency to less than one eighth of their former level. In terms of Wolpe's theoretical system,<sup>6</sup> it is probable that her trances reciprocally inhibited the anxiety responses to the unidentified noxious stimuli.

Despite the obvious limitations of autohypnosis, such cases as the foregoing show that it has a definite place in psychotherapy.

## NOTES AND NEWS : BERIGTE

Dr. B. M. DUGGAR



## OPSOMMING

Dit skyn asof selfhipnose 'n praktiese metode is om aan die tydelike aard van die meeste heterohipnotiese prosedures verby te kom. Dit is met welslae toegepas in 'n verskeidenheid van gevalle waar gewone hipnose-tegnieke van min, indien enige, waarde was.

Selfhipnose het verblydende resultate opgelewer in gevalle van haggel, slaapproosheid, swak geestes-konsentrasie, selfbewustheid, ensovoorts.

'n Pasiënt wat aan ernstige en langdurige 'besorgdheidshisterie' gely het, het aansienlik verbeter kort nadat selfhipnose-prosedures toegepas is; in hierdie geval was psigo-analise, insulienkoma en gewone hipnose volkome onsuksesvol.

Vervolg-ondersoek wat 22 maande later ingestel is, het aan die lig gebring dat die neurotiese simptome wat frekwensie sowel as intensiteit betref, verminder het. Temeer, die selfhipnose-prosedure het blykbaar niks van sy krag verloor nie, en was nog steeds besonder doeltreffend.

I wish to express my grateful thanks to the Editor and his referees for their most constructive criticisms and helpful suggestions.

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Dr. Benjamin M. Duggar, who discovered chlor-tetracycline 10 years ago at the Lederle Laboratories Division of American Cyanamid Company at Pearl River, New York. His discovery came just 5 years after he had been forced to retire from a university position, officially deemed 'too old to work.'

## NUTRITION SOCIETY OF GREAT BRITAIN

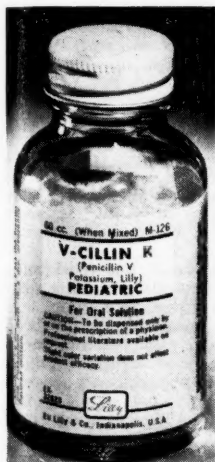
The Scottish Group of the Nutrition Society will hold a symposium on *Obesity* in Glasgow on Saturday, 4 April 1959.

The Nutrition Society will hold its Annual General Meeting and an Open Scientific Meeting in London on Friday, 29 May 1959, and a symposium on *Nutrition and Reproduction* at the School of Veterinary Medicine, Cambridge, on Saturday, 4 July 1959.

## PREPARATIONS AND APPLIANCES

'V-CILLIN K' (PENICILLIN V POTASSIUM, LILLY)  
PEDIATRIC

Eli Lilly and Company's new fast-acting oral penicillin for children (*V-Cillin K*, Pediatric) has won the highest rating ever given an antibiotic by Lilly's Junior Taste-Test Panel.



More than 100 young 'jurors' overwhelmingly approved the smooth, orange-coloured solution, particularly because it had no bitter after-taste. Thus, good patient acceptance is assured.

This new form of penicillin V potassium retains the therapeutic advantages of tablets *V-Cillin K*: therapeutic blood concentrations of penicillin are attained within 5-15 minutes and blood levels are higher than with any other oral penicillin. Bactericidal concentrations are assured.

*V-Cillin K*, Pediatric, is indicated for all infections known to respond to penicillin therapy. It is available in a dry, granular form for reconstitution as a solution. When mixed as directed each 5 c.c. (measuring spoon provided in package) will contain 125 mg. Penicillin V as the crystalline potassium salt. Package size 40 c.c.

## POLARAMINE (SCHERING CORPORATION, U.S.A.)

The South African Medical Journal\* in a recent editorial has drawn attention to the very real need for a long-acting antihistamine which produces few side effects.

By coincidence, Schering Corporation, U.S.A., announces a new antihistamine, *Polaramine*, which is the dextro-rotatory isomer of chlorpheniramine, and is reported to be relatively free of side effects, particularly the troublesome sedative action.



*Polaramine* is put up as a long-acting drug, in the well-known Repetab form, i.e. 3 mg. in the outer layer for prompt effect, and 3 mg. in the inner core for release 4-6 hours after ingestion. (Note: *Polaramine* is also available as a simple dose Tablet of 2 mg.).

**Indications:** Prevention and treatment of all allergic conditions responsive to antihistamines, e.g. hay fever, vasomotor rhinitis, angioedema, urticaria, drug and serum reactions, food allergies, atopic and contact dermatitis, allergic eczema, pruritus ani and vulvae, pruritus of non-specific origin, and in-

sect bites, as well as in selected cases of migraine headache and asthma.

**Dosage:** *Polaramine* 2 mg. Tablets: One Tablet 3-4 times daily.

**Polaramine Repetabs:** The usual dosage is one 6 mg. Tablet in the morning and repeated in the evening before retiring. More refractory cases may require a third Repetab.

**Packings:** *Polaramine* Repetabs 6 mg., bottles of 20 and 100.

*Polaramine* Tablets 2 mg., bottles of 30, 100 and 1,000.

Further information may be obtained from: Scherag (Pty.) Ltd., P.O. Box 7539, Johannesburg.

## TITANIUM IN SURGERY

*Titanium* is a relatively new metal. For some time stainless steel and cobalt-chromium alloy have been used extensively in surgery for the internal fixing of fractures and the replacement of diseased sections of bone, but the light weight and high corrosion resistance of titanium, coupled with its considerable strength, has led to experiments being carried out in 'surgical repairs' with excellent results.

The main advantages of titanium over other metals and alloy systems in the field of surgery are:

1. It has a high tensile strength and low weight.
2. Ductility and impact values exceed the safety limits.
3. It is not easily attacked by corrosive media and is unaffected by tissue fluids.
4. It becomes adherent to the bone in which it has been fixed and no reaction has been detected.
5. The metal is translucent to X-rays; and
6. No solution of the titanium occurs.

An interesting application is the use of a titanium tip to the screwdriver, shown bottom left.

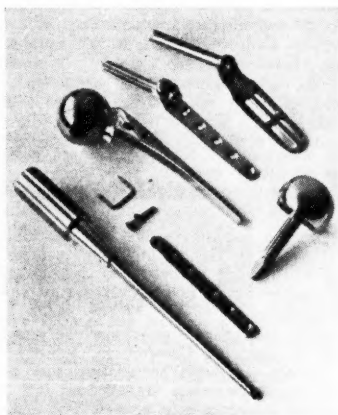


Fig. 1. A range of titanium components for joining and replacing bone sections after accidental fracture or surgery.

\* Editorial, S.A.M.J., 32, 844 (23 August 1958).

Manufacturers: Down Bros. and Mayer and Phelps Limited.

Full particulars and instruments obtainable from: Westdene Products (Pty.) Ltd., Johannesburg: 23

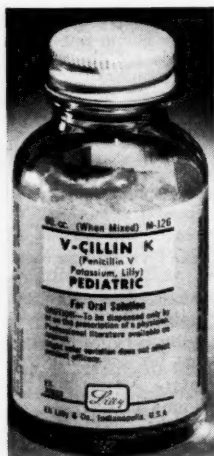
Essanby House, 175 Jeppe Street. Cape Town: 408 Grand Parade Centre, Castle Street. Durban: 66-67 National Mutual Building, Smith Street. Pretoria: 210 Medical Centre, Pretorius Street.

## PREPARATE EN TOESTELLE

### 'V-CILLIN K' (PENISILLIEN-V-KALIUM, LILLY)

#### VIR KINDERGEENEESKUNDE

Die hoogste waardesifer wat nog ooit deur Lilly se Junior Smaak-toets-komitee aan enige antibiotikum toegeken is, is deur Eli Lilly en Kie. se nuwe, vinnigwerkende mondelinge penisillien vir kinders (*V-Cillin K*, Pediatrics) verwerf.



Meer as 100 jong 'jurielde' het met 'n oorweldigende meerderheid hul goedkeuring gegee aan die aange-name, lemoenkleurige oplossing, veral omdat dit geen bitter na-smaak het nie. Bereidwillige aanvaarding van die middel deur die pasiënt is dus verseker.

Hierdie nuwe vorm van penisillien-V-kalium besit al die terapeutiese voordele van *V-Cillin K*-tablette: terapeutiese bloedkonsentrasies van penisillien word binne 5-15 minute verkry, en bloedpeile is hoër as met enige ander mondelinge penisillien. Bakteriedodende konsentrasies word verseker.

*V-Cillin K*, Pediatric, word aangedui vir alle manifestasies wat, soos bekend, op penisillientherapie reageer. Dit is verkrygbaar in 'n droë korrelvorm wat opnuut as 'n oplossing saamgestel kan word. Wanneer dit volgens die gebruiksaanwysings aangemaak word, bevat iedere 5 c.c. (en in die pakkie is daar 'n maatlepel) 125 mg. penisillien V as die kristal-lyne kaliumsout. Pakkie-grootte: 40 c.c.

#### POLARAMINE (SCHERING CORPORATION, V.S.A.)

In 'n onlangse inleidingsartikel het die Suid-Afrikaanse Tydskrif vir Geneeskunde\* die aandag gevestig op die dringende behoefte wat daar bestaan aan 'n antihistamien met 'n langdurige uitwerking en min newe-effekte.

Dit is 'n sonderlinge sameloop van omstandighede dat die Schering Corporation, V.S.A., juis op daardie tydstip die beskikbaarstelling van 'n nuwe antihistamien, *Polaramine*, aangekondig het. *Polaramine* is die regsdraaiende isomeer van chlorfeniramin, en daar word berig dat dit betreklik vry van newe-effekte is veral die lastige kalmeringseffek.

\* Redaksioneel, 1958, S.-A. Tydskr. Geneesk., 32, 844.



*Polaramine* word beskikbaar gestel as 'n artsenymiddel met 'n langdurige effek in die bekende Repetab-vorm, d.w.s. 3 mg. in die buitenste laag vir 'n onmiddellike effek, en 3 mg. in die binne-kern vir vrystelling 4 tot 6 uur na ingestie. (Let daarop dat *Polaramine* ook verkrygbaar is in die vorm van 'n eenvoudige dosis-tablet van 2 mg.)

**Indikasies:** Die voorkoming en behandeling van alle allergiese toestande wat op antihistamien reageer, bv. hooikoors, vasomotoriese neusslymvliesontsteking, allergiese ekseem, pruritus ani en vulvae, pruritus van 'n nie- en insekbytplekke, sowel as

spesifieke oorsprong, en uitgesoekte gevalle van migrainehoofpyn en asma.

**Dosis:** *Polaramine*, tablette van 2 mg.: Een tablet 3 of 4 maal per dag.

*Polaramine* Repetabs: Die gewone dosis is een tablet van 6 mg. in die oggend, en een tablet in die aand voor slapenstyd. In hardnekkige gevalle kan 'n derde Repetab nodig wees.

**Verpakking:** *Polaramine* Repetabs, 6 mg., bottels van 20 en 100.

*Polaramine* Tablette, 2 mg., bottels van 30, 100 en 1,000.

Nadere inligting is verkrygbaar van: Scherag (Edms.) Bpk., Posbus 7539, Johannesburg.

#### TITAAN IN CHIRURGIE

**Titaan** is 'n betreklik nuwe metaal. Vlekvrye staal en kobaltchroomalloy word lank reeds op groot skaal in die chirurgie gebruik vir die inwendige bevestiging van beenbreuke en die vervanging van ongesonde beenseksies, maar die feit dat titaan 'n besonder ligte metaal is en sterk weerstand teen korrosie bied, gepaard met die treffende sterkte daarvan, het aanleiding gegee tot proefnemings om 'chirurgiese herstelwerk' met hierdie metaal te doen. Die resultate was buitengewoon goed. Die ver-naamste chirurgiese voordele van titaan, in vergelyking met ander metale en allooiestelsels, kan soos volg saamgevat word:

1. Dit het 'n hoë trekvasheid en is besonder lig.
2. Die rekbaarheid en skokweerstandvermoë daarvan is hoër as die veiligheidsperk.
3. Dit word nie maklik deur korrosiemiddels aangegryp nie, en die weefselvloeiostowwe het geen effek daarop nie.
4. Dit kleef vas aan die been waaraan dit geheg is, en geen reaksie is waargeneem nie.
5. Die metaal is deurskynend vir sover dit X-strale betref, en
6. Geen oplossing van die titaan vind plaas nie.

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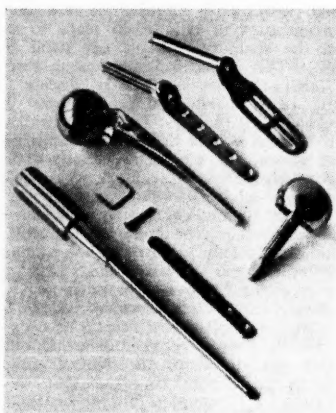
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'n Interessante toepassing is die gebruik van 'n titaanpunt vir 'n skroewedraaier, soos onder, links, aangetoon.

*Vervaardigers:* Down Bros. en Mayer & Phelps, Beperk.

Volledige besonderhede en instrumente is verkrygbaar van: Westdene Products (Pty.) Ltd.

*Johannesburg:* Essanby-gebou 23, Jeppestraat 175.

*Kaapstad:* Grand Parade Centre 408, Kasteelstraat.

*Durban:* National Mutual-gebou 210, Pretoriusstraat.

*Pretoria:* Mediese Sentrum 210, Pretoriusstraat.

Fig. 1. 'n Verskeidenheid van titaanonderdele vir die aansluiting en vervanging van beenseksies na aksidentele beenbreuke of chirurgie.

## REVIEWS OF BOOKS

### MAXILLO-FACIAL SURGERY

*Fortschritte Der Kiefer- Und Gesichtschirurgie. Ein Jahrbuch. Band IV.* By Prof. Dr. Dr. Karl Schuchardt, 1958. (Pp. 441. With Figs. DM. 124.-) Stuttgart: George Thieme Verlag.

The fourth volume of this series not only deals with the lectures delivered at the Seventh Meeting of the German Association of Maxillo-Facial Surgeons in Munich, July 1957, but incorporates the previous three volumes published.

Growth of the maxillo-facial skeleton is fully discussed with special reference to normal development, indicating at the same time the problems of surgery to be encountered here, whilst a timely warning is uttered of the ill effects which irradiation can have on young children.

A comprehensive account is given of congenital, traumatic and neoplastic conditions involving the maxillo-facial region, whilst the treatment of rare tumours and miscellaneous conditions is also presented.

Almost the entire book is written in German with summaries in English and Spanish; the discussions which followed each presentation are to be found at the end of the book.

This edition is well presented and illustrated and there is much to be gained from it if the reader is well versed in the German language.

### HYPERTENSION IN PREGNANCY

*A Symposium on Non-Toxaemic Hypertension in Pregnancy.* Ed. by Norman F. Morris, M.D., M.B., B.S., M.R.C.O.G. and J. C. McClure Browne, B.Sc., M.B., B.S., F.R.C.S. (Edin.), F.R.C.O.G. 1958. (Pp. 238 + Index. With 78 Illustrations. 35s.) London: J. & A. Churchill Ltd.

This symposium provided obstetricians and physicians with the opportunity of meeting and attempting to clarify present concepts. The book is aptly dedicated to Prof. F. J. Browne. With the exception of a few, the participants were from centres in

the United Kingdom and, not unnaturally, the obstetricians outnumbered the physicians.

However, the latter made notable contributions to the symposium, particularly in emphasizing the variations of normal blood pressure. There were dissenters from Pickering's concept that in the population a raised blood pressure is only a quantitative difference with a continuous variation. Discussion, however, drew attention to many of the pitfalls in blood pressure recording, and factors such as lability, arm circumference, age, etc., received considerable attention. The need for standards (in normal pregnant patients there is no reasonable series with all corrections applied) is obvious. The perennial 120/70 or 140/90 controversy persists and discussion of prognosis is rendered nonsensical. Mr. Aleck Bourne made the significant statement that obstetrics is a branch of medicine and not of surgery. It is indeed reassuring to see that the obstetricians are taking a keener interest in research in this field, and it is to be hoped that the apparent agreement on the needs for adequate standards will in due course bear fruit.

While there was general agreement on the remarkable improvement in maternal and foetal mortality following adequate antenatal care, it is apparent that the dangers of hypertension in pregnancy, although real, have been exaggerated. McMichael suggested that in pregnancy the best view would be to regard pregnancy toxæmia simply as a physiological test of a liability to the development of hypertension in later life.

Wilson's findings of a lack of major deterioration during pregnancy in cases of primary renal disease without hypertension deserves emphasis. The subject of pyelonephritis in cases of hypertension in pregnant women has received scant attention. Both McMichael and Rosenheim directed attention to this aspect, but the very lack of discussion is an indication of ignorance. This is a subject that needs further investigation.

In general it may be said that this symposium is a valuable contribution, particularly in emphasizing the basic lack of standards. The book is well produced and is of great interest to all physicians and obstetricians.



## REHABILITATION OF THE CARDIOVASCULAR PATIENT

*Rehabilitation of the Cardiovascular Patient.*  
By Paul Dudley White, M.D., Howard A. Rusk, M.D., Philip R. Lee, M.D. and Bryan Williams, M.D. 1958. (Pp. 166 + Index. With Figs. \$7.00). New York: McGraw-Hill Book Company.

This book is a co-operative effort 'not directed to any particular speciality of medicine but rather to all practitioners who bear the responsibility for the management of patients with cardiovascular disabilities.

Almost half the book (87 of 176 pages) is devoted to cerebral vascular disease, and this is indeed a refreshing change, as this subject is sadly neglected in most textbooks of medicine. Much of this chapter is of greater value to specialists in physical medicine and to occupational therapists than to the general practitioner, the physician or the neurologist. Nevertheless, the latter group could acquire a great many hints on the handling of patients with hemiplegias and aphasias. Many useful gadgets to make life easier for the hemiplegic patient are described and illustrated, and most are practical enough to be made

in a small workshop. An example is a nail brush with suction cups to hold it in place so that the nails can be scrubbed without any hand to hold the brush. This is one example among many.

The other chapters on cardiac disease include rheumatic heart disease, congenital heart disease, hypertensive heart disease and coronary heart disease. They all contain a great deal of commonsense guidance and advice, but are not as definite or as valuable as the chapter on cerebral vascular disease.

The authors' advice that most patients can return to full activity within weeks after a myocardial infarction will certainly be endorsed by most physicians, and should help to dispense the gloomy view of some practitioners and specialists that patients must be restricted for 6 months or more.

Despite the authors' introductory remarks that the book is directed to all practitioners, one cannot help feeling that the chapter on cerebrovascular disease is too highly specialized for the general practitioner and the specialist physician, and that the other chapters are too incomplete for specialists in the various conditions such as rheumatic heart disease, congenital heart disease or coronary heart disease. On the whole, however, this is a good and useful book.

## CORRESPONDENCE

## COLLEGE OF GENERAL PRACTITIONERS

## A SOUTH AFRICAN FACULTY

*To the Editor:* The National General Practitioners Group decided at the meeting of its Executive Committee on 30 September 1958 to sponsor the formation of Faculties of the College of General Practitioners, it being left to the individual areas to apply to the College of General Practitioners in Great Britain for recognition and the right to form a Faculty.

In the Witwatersrand area we have acted accordingly, and have been granted that right by the Council of the College of General Practitioners in Great Britain.

At a meeting held in Johannesburg on 21 November 1958, a Board of the Faculty was elected.

The Faculty has been named the *Witwatersrand Faculty of the College of General Practitioners*, and the following were elected as office bearers of the Board of this Regional Faculty:

*Chairman:* Dr. G. W. Schepers.

*Vice-Chairman:* Dr. Derek Pirie.

*Honorary Secretary and Treasurer:* Dr. Leslie Levy.

*Assistant Honorary Secretary:* Dr. Michael Tonkin.

*Members of the Board:* Drs. S. Binder, R. C. de Kock, H. Parke-Forster, S. Lachman, W. A. M. Miller, H. A. Shapiro, M. Shapiro and S. A. van Lingen.

Provisionally, we will be prepared to receive applications for membership from general practitioners in the Transvaal Province, until such time as other Faculties may be formed, when regional jurisdiction will be decided by mutual arrangement.

Applications for membership may be made to the Board of the Witwatersrand Faculty of the College of General Practitioners. Letters should be addressed to Dr. Leslie Levy, 11 Millson House, 106 Twist Street, Hillbrow, Johannesburg.

We hope to hear in the near future that other Faculties have been formed, or are in the process of applying for recognition, so that we may communicate with them with a view to close co-operation.

The Board of the Witwatersrand Faculty of the College of General Practitioners extends to the Medical Association of South Africa its cordial greetings, and wishes to emphasize at the outset that its functions are purely academic, and wishes further to thank those individual members and bodies of the Medical Association who have made it possible for us to achieve this ideal.

While the Faculty has been formed to promote the academic interests of the general practitioner, we must make it clear that we do not wish to remain an isolated body; rather do we wish to co-operate with other existing academic organizations.

Ons wil ook graag herhaal dat toe daar besluit is om oor te gaan tot die stigting van Fakulteite in Suid-Afrika wat voorlopig ge-affilieerd is met die Kollege van Algemene Praktisyne in Groot-Brittanje dit gedoen is met die duidelike verstandhouding dat sodra ons in Suid-Afrika gereed is om selfstandig en onafhanklik te funksioneer, dit slegs 'n kwessie sal wees om so 'n besluit te neem en die Kollege van Algemene Praktisyne in Groot-Brittanje dien-ooreenkomstig in kennis te stel.

G. W. SCHEPERS,

*Chairman, Witwatersrand Faculty,  
The College of General Practitioners.*

Johannesburg.

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